



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

October 31, 2014

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-9502199, issued to ANTERO RESOURCES CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: BUCK EAST UNIT 2H
Farm Name: RIPLEY, ROBERT L. ET AL
API Well Number: 47-9502199
Permit Type: Horizontal 6A Well
Date Issued: 10/31/2014

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.


WW-6B
(9/13)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1 470

1) Well Operator: Antero Resources Corporation 494488557 095- Tyler Centerville Middlebourne 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Buck East Unit 2H Well Pad Name: Sancho Pad

3) Farm Name/Surface Owner: Ripley, Robert L. et al Public Road Access: CR 7/6 

4) Elevation, current ground: ~1035 Elevation, proposed post-construction: 1026'

5) Well Type (a) Gas ☒ Oil ☐ Underground Storage ☐
Other ☐

(b) If Gas Shallow ☒ Deep ☐
Horizontal ☒

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Marcellus Shale: 6700' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 28000#

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 9700' MD


11) Proposed Horizontal Leg Length: 2527'

12) Approximate Fresh Water Strata Depths: 116', 227', 398'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 578', 2,060', 2,143'

15) Approximate Coal Seam Depths: 116', 519', 1,461'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated 

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes ☐ No ☒

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

Office of Oil and Gas
WV Dept. of Environmental Protection

WW-6B
(9/13)

18)

CASING AND TUBING PROGRAM

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	20"	New	H-40	94#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	450'	450'	CTS, 625 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2455'	2455'	CTS, 1,000 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	9,700'	9,700'	2,274 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7,100	
Liners							

MDC
9-18-14

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.438"	1530	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	Class A	1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	Class A	1.18
Intermediate						
Production	5-1/2"	8-3/4" & 8-1/2"	0.361"	12630	Lead-H/POZ & Tall - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11200		
Liners						

PACKERS

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

WW-6B
(9/13)

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

Planned

AUG 21 14

Office of Oil and Gas

WV Dept. of Environmental Protection

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 21.84 acres

22) Area to be disturbed for well pad only, less access road (acres): 9.13 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

24) Describe all cement additives associated with each cement type:

✓ Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.

4709502199

WW-9
(9/13)API Number 47 - 095 -
Operator's Well No. Buck East Unit 2HSTATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

Received

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

AUG 21 2014

Operator Name Antero Resources Corporation OP Code 494488557Watershed (HUC 10) Wheeler Run Quadrangle Middlebourne 7.5' Office of Oil and Gas
WV Dept. of Environmental ProtectionElevation 1026' County Tyler District CentervilleDo you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ☒ No ☐Will a pit be used? Yes ☐ No ☒If so, please describe anticipated pit waste: No pit will be used at this site (Drilling and Flowback Fluids will be stored in tanks. Cuttings will be tanked and hauled offsite).Will a synthetic liner be used in the pit? Yes ☐ No ☒ If so, what ml.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- ☐ Land Application
- ☐ Underground Injection (UIC Permit Number _____)
- ☒ Reuse (at API Number _____ Future permitted well locations when applicable. API# will be provided on Form WR-34)
- ☒ Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98)
- ☐ Other (Explain _____)

Will closed loop system be used? If so, describe: YesDrilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Surface - Air/Freshwater, Intermediate -
Dust/Stiff Foam, Production - Water Based Mud-If oil based, what type? Synthetic, petroleum, etc. N/AAdditives to be used in drilling medium? Please See AttachmentDrill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Stored in tanks, removed offsite and taken to landfill.-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A-Landfill or offsite name/permit number? Meadowfill Landfill (Permit #SWF-1032-98)

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Cole KilstromCompany Official (Typed Name) Cole KilstromCompany Official Title Environmental Specialist

SAMANTHA MARSH
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20134079428
MY COMMISSION EXPIRES DECEMBER 20, 2017

Subscribed and sworn before me this 6th day of August, 20 14Samantha Marsh Notary PublicMy commission expires December 20, 2017

Form WW-9

Operator's Well No. Buck East Unit 2HAntero Resources CorporationProposed Revegetation Treatment: Acres Disturbed 21.84 Prevegetation pH _____Lime 2-4 Tons/acre or to correct to pH 6.5Fertilizer type Hay or straw or Wood Fiber (will be used where needed)Fertilizer amount 500 lbs/acreMulch 2-3 Tons/acreAccess Road "A" (3.89) + Access Road "B" (3.99) + Staging Area (0.42) + Well Pad (9.13) + Excess/Topsail Material Stockpiles (4.41) = 21.84 Existing AcresSeed MixturesTemporaryPermanentSeed Type lbs/acre
Annual Rye Grass 10Seed Type lbs/acre
Crownvetch 10-15

*See attached Table 3 for additional seed type Sancho Pad Design Page 24)

*See attached Table 4a for additional seed type Sancho Pad Design Page 24)

*or type of grass seed requested by surface owner

*or type of grass seed requested by surface owner

NOTE: No Fescue or Timothy Grass shall be used.Attach:Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)Photocopied section of involved 7.5' topographic sheet.Plan Approved by: Michael GoffComments: Preseed & Mulch any disturbed areas per WV DEP regs. Upgrade & maintain E-N-S as necessary.Title: Oil & Gas Inspector Date: 9-18-14Field Reviewed? ☒ Yes ☐ No

Form WW-9 Additives Attachment

SURFACE INTERVAL

1. Fresh Water
2. Soap –Foamer AC
3. Air

INTERMEDIATE INTERVAL

STIFF FOAM RECIPE:

- 1) 1 ppb Soda Ash / Sodium Carbonate-Alkalinity Control Agent
- 2) 1 ppb Conqor 404 (11.76 ppg) / Corrosion Inhibitor
- 3) 4 ppb KLA-Gard (9.17 ppg) / Amine Acid Complex-Shale Stabilizer
- 4) 1ppb Mil Pac R / Sodium Carboxymethylcellulose-Filtration Control Agent
- 5) 12 ppb KCL / Potassium Chloride-inorganic Salt
- 6) Fresh Water 80 bbls
- 7) Air

PRODUCTION INTERVAL

1. Alpha 1655
Salt Inhibitor
2. Mil-Carb
Calcium Carbonate
3. Cottonseed Hulls
Cellulose-Cottonseed Pellets – LCM
4. Mil-Seal
Vegetable, Cotton & Cellulose-Based Fiber Blend – LCM
5. Clay-Trol
Amine Acid Complex – Shale Stabilizer
6. Xan-Plex
Viscosifier For Water Based Muds
7. Mil-Pac (All Grades)
Sodium Carboxymethylcellulose – Filtration Control Agent
8. New Drill
Anionic Polyacrylamide Copolymer Emulsion – Shale Stabilizer
9. Caustic Soda
Sodium Hydroxide – Alkalinity Control
10. Mil-Lime
Calcium Hydroxide – Lime
11. LD-9
Polyether Polyol – Drilling Fluid Defoamer
12. Mil Mica
Hydro-Biotite Mica – LCM

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AUG 21 2014

13. Escaid 110
Drilling Fluid Solvent – Aliphatic Hydrocarbon
14. Ligco
Highly Oxidized Leonardite – Filtration Control Agent
15. Super Sweep
Polypropylene – Hole Cleaning Agent
16. Sulfatrol K
Drilling Fluid Additive – Sulfonated Asphalt Residuum
17. Sodium Chloride, Anhydrous
Inorganic Salt
18. D-D
Drilling Detergent – Surfactant
19. Terra-Rate
Organic Surfactant Blend
20. W.O. Defoam
Alcohol-Based Defoamer
21. Perma-Lose HT
Fluid Loss Reducer For Water-Based Muds
22. Xan-Plex D
Polysaccharide Polymer – Drilling Fluid Viscosifier
23. Walnut Shells
Ground Cellulosic Material – Ground Walnut Shells – LCM
24. Mil-Graphite
Natural Graphite – LCM
25. Mil Bar
Barite – Weighting Agent
26. X-Cide 102
Biocide
27. Soda Ash
Sodium Carbonate – Alkalinity Control Agent
28. Clay Trol
Amine Acid complex – Shale Stabilizer
29. Sulfatrol
Sulfonated Asphalt – Shale Control Additive
30. Xanvis
Viscosifier For Water-Based Muds
31. Milstarch
Starch – Fluid Loss Reducer For Water Based Muds
32. Mil-Lube
Drilling Fluid Lubricant

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AUG 21 2014



Well Site Safety Plan

Antero Resources

Well Name: Seckman Unit 1H, Seckman Unit 2H, Buck East Unit 2H, Buck East Unit 1H, Buck West Unit 2H, Buck West Unit 1H, Lucy Unit 1H, Leaseburg Unit 1H

Pad Location: SANCHO PAD
Tyler County/ Centerville District

Michael Goff
9-18-17

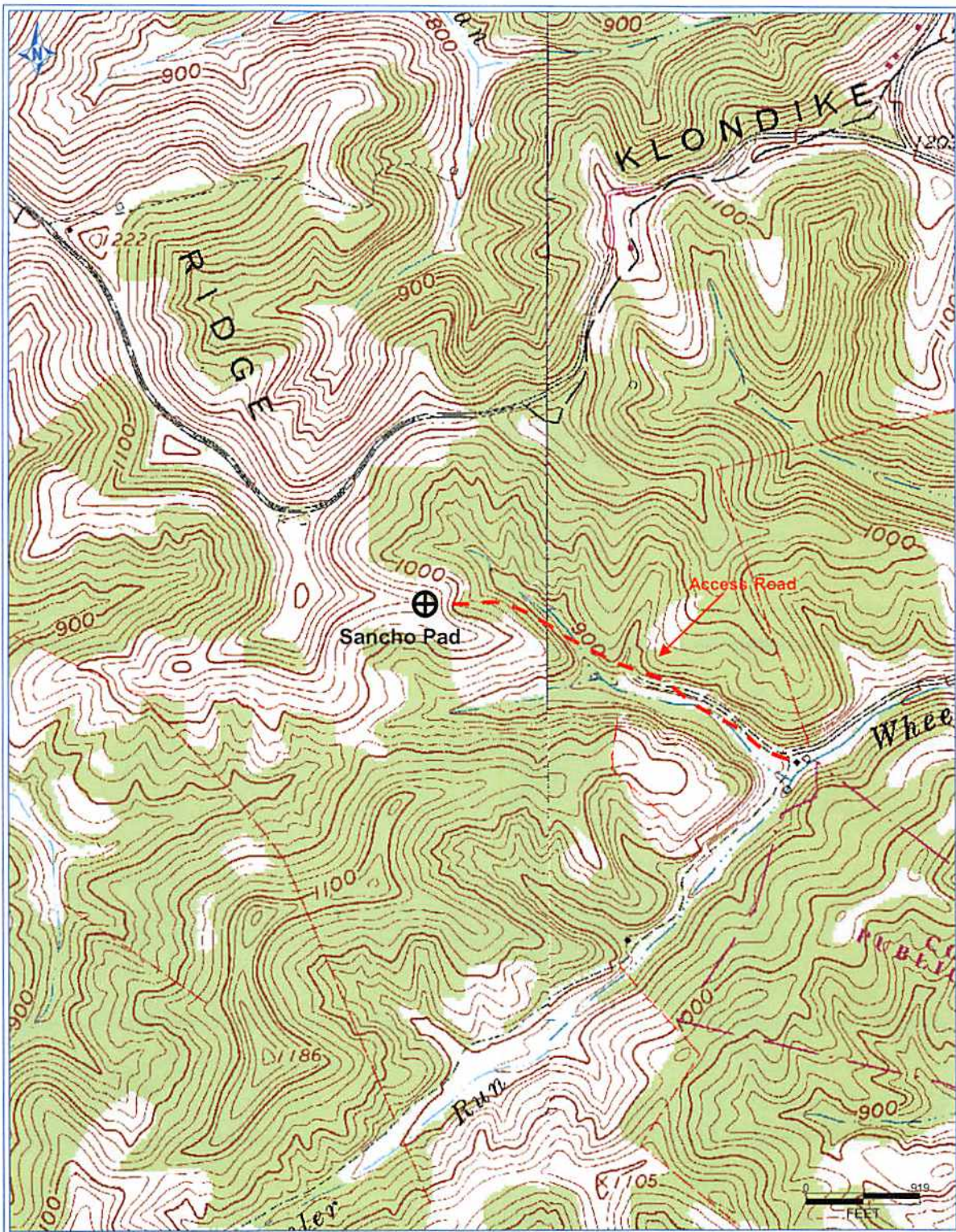
GPS Coordinates: Lat 39°26'10.45"/Long 80°52'39.42" (NAD83)

Driving Directions:

From Clarksburg, travel approximately 25.5 miles on US-50 West. Turn right onto WV-18 North, go 0.6 miles. Turn left onto Davis Street/Old US 50 West and go 0.4 miles. Take the second right onto WV-18 North/Sistersville Pike and go 16.8 miles. Turn left onto Klondike Ridge and go 0.1 miles. Turn left onto Wheelers Run and go 2.0 miles. Entrance to the pad will be on your right.

EMERGENCY (24 HOUR) CONTACT 1-800-878-1373

4709502199



PETRA 8/1/2014 11:30:20 AM

Received

AUG 21 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

Antero Resources Corporation

Appalachian Basin

Buck East Unit 2H

Tyler County

Quadrangle: Middlebourne

Watershed: Headwaters Middle Island Creek

District: Centerville

Date: 8-1-2014

<p>NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.</p>		<p>ANTERO RESOURCES CORPORATION Well No. Buck East Unit 2H</p>		<p>LATITUDE 39°27'30" -808'</p>	
<p>NOTES: WELL 2H TOP HOLE INFORMATION: N: 343,864ft E: 1,610,840ft LAT: 39°26'09.30" LON: 80°52'40.34" BOTTOM HOLE INFORMATION: N: 346,768ft E: 1,610,145ft LAT: 39°26'37.89" LON: 80°52'49.76" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.</p>		<p>STATE OF WV DNR D.B. 215 PG. 520 T.M. 27 PAR. 02 405.81 AC. ±</p>		<p>1,550' TO BOTTOM HOLE LATITUDE 39°27'30" LONGITUDE 80°52'30" 5,291' TO BOTTOM HOLE 8,184'</p>	
<p>(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,365,168m E: 510,525m BOTTOM HOLE INFORMATION: N: 4,366,050m E: 510,298m</p>		<p>ANTHONY M. GOFFI D.B. 353 PG. 683 T.M. 26 PAR. 49 130.75 AC. ±</p>		<p>STATE OF WV DNR D.B. 227 PG. 141 T.M. 30 PAR. 02 6 AC. ±</p>	
<p>PAD LAYOUT NOT TO SCALE</p>		<p>STATE OF WV DNR D.B. 227 PG. 141 T.M. 27 PAR. 30 125 AC. ±</p>		<p>STATE OF WV DNR D.B. 227 PG. 141 T.M. 30 PAR. 01 65 AC. ±</p>	
<p>NOTE: 1 WATER WELL WAS LOCATED WITHIN 2000' OF CENTER OF PAD</p>		<p>STATE OF WV DNR D.B. 227 PG. 141 T.M. 30 PAR. 03 51.06 AC. ±</p>		<p>STATE OF WV DNR D.B. 256 PG. 17 T.M. 04 PAR. 01 222.85 AC. ±</p>	
<p>WELL NO. 2H</p>		<p>REGINA M. BUCK LEASE STATE OF WV DNR D.B. 227 PG. 141 T.M. 03 PAR. 01 309.55 AC. ±</p>		<p>STATE OF WV DNR D.B. 327 PG. 77 T.M. 04 PAR. 06 44.5 AC. ±</p>	
<p>1864 1827 827 1789 1942 1884</p>		<p>WELL 2H BOTTOM HOLE</p>		<p>STATE OF WV DNR D.B. 327 PG. 77 T.M. 04 PAR. 06 53.5 AC. ±</p>	
<p>STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS</p>		<p>THOMAS SUMMERS LICENSED No. 2109 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR</p>		<p>STATE OF WV DNR D.B. 327 PG. 77 T.M. 04 PAR. 06 53.5 AC. ±</p>	
<p>WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415</p>		<p>5/8" REBAR FOUND</p>		<p>STATE OF WV DNR D.B. 327 PG. 77 T.M. 04 PAR. 06 53.5 AC. ±</p>	
<p>JOB # 14-011WA</p>		<p>LEGEND</p>		<p>REFERENCES</p>	
<p>DRAWING # BUCKEAST2HR2</p>		<p>— Surface Owner Boundary Lines +/-</p>		<p>STAKE/NAIL, SET</p>	
<p>SCALE 1" = 1000'</p>		<p>- - - Interior Surface Tracts +/-</p>		<p>WELL NO. 2H</p>	
<p>MINIMUM DEGREE OF ACCURACY SUBMETER</p>		<p>X Existing Fence</p>		<p>STAKE/NAIL, SET</p>	
<p>PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS</p>		<p>Found monument, as noted</p>		<p>1" = 500'</p>	
<p>STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS</p>		<p>THOMAS SUMMERS P.S. 2109</p>		<p>DATE 07/29/14</p>	
<p>DATE 07/29/14</p>		<p>OPERATOR'S WELL# BUCK EAST UNIT #2H</p>		<p>STATE COUNTY PERMIT</p>	
<p>WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>LOCATION: ELEVATION 1,026' WATERSHED WHEELER RUN</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>QUADRANGLE MIDDLEBOURNE 7.5'</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>SURFACE OWNER ROBERT L. RIPLEY ET AL</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>OIL & GAS ROYALTY OWNER MARY BURG, CATHY JO ASH ET AL; REGINA M. BUCK</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>(SPECIFY) PLUG & ABANDON CLEAN OUT & REPLUG</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 9,700' MD</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>WELL OPERATOR ANTERO RESOURCES CORP.</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>ADDRESS 1615 WYNKOOP STREET</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>ADDRESS 5400 D BIG TYLER ROAD</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>DENVER, CO 80202</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	
<p>CHARLESTON, WV 25313</p>		<p>47 - 095 - 02199</p>		<p>STATE COUNTY PERMIT</p>	